

# SCIENCE & GOVERNMENT REPORT

10th Year of Publication

The Independent Bulletin of Science Policy

Vol. X, No. 10

P.O. Box 6226A, Washington, D.C. 20015

June 1, 1980

## Support Grows for US Engineering Foundation

Lagging US industrial performance and other well-publicized economic ailments are creating a favorable atmosphere for long-standing proposals to establish an engineering counterpart to the National Science Foundation.

It's not going to happen fast, if at all, but among engineers and industrialists, there's a growing conviction that applied science and technology need their own institution on the Washington scene. There's already a bill in the Congressional hopper reflecting this aim —

### *NIH: Another Battle Of Bethesda---Page 5*

the National Technology Foundation Act of 1980 (HR 6910), introduced March 25 by Rep. George E. Brown Jr. (D-Calif.), with immediate support from 11 other members of the House. As chairman of the Subcommittee on Science, Research, and Technology of the Science and Technology Committee, Brown is the key

man in the House for writing NSF legislation, and therefore lies his advantage for either pushing NSF to be more attentive to applied science, or trying to set up a new foundation.

Support for first trying to remake NSF came May 11 in a unanimously adopted resolution by the Board of Directors of the Institute of Electrical and Electronic Engineers (IEEE) calling for reorganizing NSF into a National Engineering and Science Foundation. With 200,000 members — 170,000 of them in the US — the IEEE is the largest engineering organization in the world, and though the organization is not noted for lobbying clout or political acumen, it's been stirring a bit in recent years and making itself better known in official Washington. In passing the resolution, IEEE also noted alternatives to putting engineering and science into one foundation, namely setting up an engineering or technology foundation, as envisaged in Brown's legislation.

While the issue of where to put science and engineering—  
*(Continued on Page 2)*

### *NSF's Mysterious Vacancies*

At the upper levels of the National Science Foundation there's a highly caustic, though privately stated, assessment of the White House's long and unexplained delay in responding to the expiration May 10 of one-third of the seats on the 24-member National Science Board.

The Board, which is the top policymaking body of the Foundation, met May 15 for a regularly scheduled meeting, with the expired members in attendance — as non-voting consultants.

In anticipation of the expirations, the NSF brass sent a long list of names to the White House last September 28 — 16 strongly recommended possibilities for the eight impending vacancies on the Board, plus all other names that had been suggested by one source or another. There's been no response.

Why? The view of one highly elevated NSF leader is as follows: These board appointments are nice plums for local academics and industrial types; makes 'em feel important when they get a presidential appointment. This being so, says the NSF man, the political types at the White House have decreed that the slots be held in reserve just in case they might be useful for buttering up people who can help the Carter campaign.

## In Brief

National Academy of Sciences President Philip Handler is urging scientists to refrain from joining "Scientists and Engineers for Whomever" in the 1980 presidential election. Noting that he took part in such organizations (on the Democratic side in the 1964 and 1968 election), Handler told the recent annual meeting of the NAS that he has "awakened to the great undesirability of any such organization. I consider it a potential disaster thus to split the scientific community with respect to an issue which is essentially external to the scientific endeavor itself."

*With the primaries still running, it's too early for such organizations to appear, but given the recent practice of lining up presidential endorsements from all kinds of groups and professions, it's reasonably certain that scientist committees will be set up by the major candidates.*

The current surplus of elementary and high school teachers is on the way to disappearing and "In the late 1980s, when enrollments begin increasing, a shortage of new teacher graduates could occur." That's the latest from the National Center for Education Statistics, which also reports sharp drops in average real income of teachers — \$17,237 in 1971-72 to \$15,867 in 1978-79.

## ...Engineers Neglected Political Flanks

(Continued from Page 1)

ing in the government table of organization might, at first glance, seem to be merely a matter of bureaucratic housekeeping, the fact is that it stirs great passions and anxieties, especially among the basic-science politicians who have long predominated in Washington R&D affairs.

It was early in the postwar period that basic scientists, led by the politically influential alumni of the World War II atom bomb and radar enterprises, organized the government apparatus for putting funds into research. And, since most of them came from academe, it is not surprising that they conceived the National Science Foundation as a device for supporting research in academe. There was some talk then about making it a science and engineering foundation, but Harry Truman's science counselors — determined to keep basic science from reverting to its pre-war poverty — said that wouldn't be necessary, since "science" embraced a wide range of technical activities.

As for the engineers, they lacked a base on the Washington scene — there was no National Academy of

Engineering then, and even when it came into existence, in 1964, it foolishly accepted a place as a subordinate part of the century-old National Academy of Sciences. Academic engineers didn't know their way around Washington, and many industrial engineers deemed it highly prudent to minimize their contacts with official Washington.

The outcome was inevitable. With NSF solidly in the hands of basic researchers, funds for research related to engineering, technology, and applied science never got more than a small slice of the budget — perhaps 10 per cent in a good year. Congress would now and then push NSF to put more money into technology-related projects, but the Foundation staff generally managed to stay within the Congressional guidelines without really shifting resources. Engineers on the National Science Board, which is supposed to set policy for the Foundation, used to despair about the full-time staff's talent for snowing the board when confronted with inquiries about the appalling neglect of engineering. For a time, NSF responded to White House and Congressional

(Continued on Page 3)

### **Brown's Bill Would Gut NSF's Engineering Programs**

*Following are the main provisions of the bill that Rep. George E. Brown Jr. (D-Calif.) has introduced for establishing a National Technology Foundation (HR 6910):*

To be established as an independent agency, the Foundation would have eight branches:

1. Office of Small Business, for encouraging small, high-technology firms, with assistance ranging from venture capital through production. The office "would carry out the small business innovation program that would be transferred to it" from NSF.

2. Office of Institutional and Manpower Development, for collecting educational data, developing education programs, and providing support for training.

3. Office of Technology Policy and Analysis, to be formed from parts of NSF's Division of Policy Research and Analysis, and to function as "the brain of the Foundation," with responsibility for "developing indicators for the health of technology," and generally keeping tabs on the linkage between technology and the economy.

4. Office of Intergovernmental Technology, for promoting technology at local and state levels.

5. Office of Engineering, for extramural contract and grant support of "fundamental research in all

engineering disciplines and applied research not adequately supported from other sources." NSF's engineering divisions would be transferred to the new office "and would constitute the initial program of the office."

6. Office of National Programs, for identifying "emerging national problems," and providing support for relevant research and programs. NSF's Applied Research and Problem Focused Research Divisions would be transferred "to form the core program of the Office initially."

7. The National Bureau of Standards, to be "transferred intact from the Department of Commerce to the National Technology Foundation." NBS would retain its current responsibilities, but would also support general programs of the Foundation, including international voluntary standardization activities.

8. Patent and Trademark Office and the National Technical Information Service, both to be transferred from Commerce.

Like NSF, the new Foundation would be headed by a presidentially appointed director and a 24-member policymaking board; to assure close collaboration with the remnants of the Science Foundation, there would be a prescribed eight-member overlap between the boards of the two organizations.

## "Women in Science" Bill Gains in Senate

Senator Kennedy's long-languishing Women in Science bill — designed to get more women into science-related careers — has suddenly acquired political vitality through the device of attaching it to the Senate's annual reauthorization legislation for the National Science Foundation.

Riding along on that legislative vehicle, which sets a relatively generous ceiling of \$1.074 billion for NSF in Fiscal 1981, the Women in Science provisions have been approved by the Senate Committee on Labor and Human Resources. Full Senate passage and then reconciliation with the House version of the NSF bill — which doesn't include the "women's" item — are still to come.

The rationale for the Women in Science legislation is in the fact that, while science offers women better job

opportunities than many other fields, it still lags in equality of hiring, salaries, promotions, and various other criteria.

Like the earlier Kennedy proposals, the Committee's plan is designed to alleviate some of the worst aspects of discrimination — high unemployment, low salaries, and little professional recognition. Acknowledging that women have long been denied equal educational and employment opportunities in scientific and technical fields, Committee Chairman Harrison A. Williams (D-NJ) said the measure would create a variety of special-educational projects — training programs for teachers and counselors, fellowships for graduate and post-graduate students, and re-training programs for older women who want to get back into the labor force after

*(Continued on Page 4)*

### ENGINEERING *(Continued from Page 2)*

pressures with a variety of big talk but small money programs, such as the much touted but then quietly dismantled Research Applied to National Needs (also RANN, as it should have been called). But the secret governing principle of NSF is that the Foundation is there to bankroll academic basic science, and the only permissible diversions are those that are politically unavoidable.

Support for keeping things just as they are comes from an extensive network of relationships that has become deeply rooted on the Washington scene over the past two decades. Thus, the White House science office is usually headed by an academic; Nixon's adviser, Edward E. David Jr., was the only one of the eight occupants of that post who came from industry. The Academy of Engineering remains buried within the Academy of Sciences, though the NAE has been rumbling for a time about possible other arrangements, and NAS President Philip Handler has ordered a re-examination of the relationship.

The immediate prod for this review is that Handler, upon completing two six-year terms as NAS president, must retire from Office in June 1981, and a year after that, his engineering counterpart, Courtney Perkins,

steps down from the NAE. In characteristically convoluted terms, Handler told the April annual meeting of the Academy of Sciences that the NAS-NAE relationship, though "working smoothly," is "at best, a metastable state, requiring little activation energy to cause it to degrade." So, he went on, "I have proposed to Dr. Perkins that a small joint committee review our circumstances" and report in August to the councils of the two academies.

Meanwhile, the concepts embodied in the Brown bill are getting talked about in political and professional circles. It's all in a rather low key, reflecting the fact that the Congressional session is approaching the home-stretch, budgets are severely restricted, and the upsetting of the science-dominated *status quo* cannot be swiftly accomplished.

However, the need for a bigger federal role in the promotion of technology is no longer seriously disputed, and what that means is that something important is likely to be done about it, probably within the next year or two. The argument, then, is no longer whether there's a gap to be filled; rather, the debate is in the early stages of making that important shift to the issue of the means for accomplishing an agreed-upon end.—DSG

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ISSN 0048-9581

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Independently published by *Science & Government Report, Inc.*, twice monthly, except once each in January, June & July. Annual Subscription: Institutions, \$89.50 (two years, \$168.50); individuals, \$48.50 (two years, \$82.50). Editorial offices at 3736 Kanawha St., N.W., Washington, DC 20015. Tel. (202) 244-4135. Second class postage paid at Washington, DC. Please address all subscription correspondence to Box 6226A, Northwest Station, Washington, DC 20015. Reproduction without permission is prohibited. SGR is available on Xerox University Microfilms. Claims for missing back issues will be filled without charge if made within six months of publication date.

## ...NSF Board Would Have to Add More Women

(Continued from Page 3)

an interruption in their careers.

The Senate bill calls for a number of specific steps to be taken by NSF and its top policy body, the 24-member National Science Board. The President, for example, would be required to increase — to a more “equitable” level — the ratio of women serving on the Board; only three of those now serving are women.

The Foundation, as well as other federal agencies, also would be encouraged to increase the number of scholarships and research grants awarded to women. Of all the engineers and scientists now conducting research, federal data show, less than 10 per cent are women. During the past year, the data show, women received less than 3 per cent of all research awards.

To encourage young girls and women to consider careers in science and technology, the bill would require NSF to support a “visiting-women-scientists program.” The program would sponsor a series of lectures, seminars, and workshops at schools and colleges around the country, bringing together the women scientists with promising young students.

While following the general outlines of the original Kennedy proposals, the Senate panel decided to delete some of the most controversial provisions of the Kennedy bill. For example, the Committee’s bill would not pay the legal fees of women who have been the victims of discrimination, nor would it allow federal agencies to reduce awards to universities that do not hire sufficient numbers of women scientists.

At the urging of the Committee Chairman, the Senate panel also put several restrictions on the use of the money for women in science — restrictions the original Kennedy bill had not included. The Senate bill would limit to \$1 million a year the amount that could be spent on the visiting-scientists program. It would require that at least 15 per cent of the total amount allotted to the women be spent on postgraduate fellowships and traineeships. And it would require that another 15 per cent of the total be set aside for research grants for women who are trying to re-enter the job market.

### NSF Money Bill Advances

In other action on the NSF bill, the Senate panel agreed to go along with most of the recommendations made earlier this Spring by Kennedy’s Subcommittee on Health and Scientific Research. Perhaps the most controversial of those recommendations was the plan to provide only \$79.5 million for the Foundation’s science-education programs.

Early in May, the House of Representatives’ Subcommittee on Science, Research, and Technology had approved \$91 million for science-education programs

for fiscal 1981. But in a rapid-fire session later in the month, the Senate subcommittee managed to cut nearly \$13 million from the programs. The problem is not that the programs are unpopular among Senators. Apparently they simply had assumed — mistakenly — that NSF had lost all of its education programs to the new Department of Education.

Although the Senators are apparently not going to fess up to their mistake, they are reported to be willing — quietly — to let the House have its way with the larger and more realistic figures when bill goes before a conference committee for final resolution this summer.

None of this confusion, however, is reassuring to those educators who have been assailing NSF and the Board for allegedly ignoring NSF’s mandate to provide support for research and education. By far, the bulk of NSF’s funds have gone toward research, and certainly next year’s budget will be no exception to that rule. The only question is how much more will be allocated to research.

For the Foundation as a whole, the Senate panel approved a bill that fell \$50 million short of the measure approved earlier this Spring by the House panel.

For the US Antarctic Program, for example, the Senate bill includes \$58 million compared to the \$61.4 million okayed in the House. For Biological, Behavioral, and Social Sciences, the Senate bill would authorize \$172 million, compared to the House figure of \$187.51 million. For Engineering and Applied Science, the Senate bill would authorize \$57 million, compared to the \$42.56 million included in the House bill.

For Scientific, Technological, and International Affairs, the Senate panel recommended \$26.5 million, compared to the \$39.45 million included in the House bill. And for Cross-Directorate Programs, the Senate okayed \$32.75 million compared to the \$33.2 million approved by the House.

In addition, the Senate bill extends the NSF programs for two years instead of one. In the past, the Senate’s attempt to pass longer authorization bills has met with strong approval by scientists and administrators on the grounds that the longer the period of reauthorization, the greater the stability of the Foundation’s programs. Yet many researchers are beginning to change their minds about the desirability of two-year authorizations, particularly as inflation begins to eat away at their research projects.

“Every time they go to the table, they have a chance of picking up a few more morsels,” said one Congressional aide. “The lobbyists are beginning to realize that, and are coming up here as often as can.”—Anne Roark

(The author is an assistant editor of *The Chronicle of Higher Education*.)



## NIH in Tempest with Its Well-Meaning Friends

The National Institutes of Health's charmed relationship with the Congress is about to be severely tested following House and Senate committee actions that would substantially rearrange NIH's basic legislative underpinnings.

The immediate effect of this prospect, of course, is a barrage of shouts and alarms from the NIH Bethesda, Md., campus and its medical-school clients throughout the land. Rumors, apparently unfounded, have been circulating to the effect that NIH Director Donald S. Fredrickson is either about to resign or is going to be canned by Secretary Patricia Harris of the Department of Health and Human Services. What's for certain is that the chief of legislative analysis for NIH, Burke Zimmerman, is leaving his job, which he's held for just 18 months. Some say that Harris directed Fredrickson to bounce Zimmerman; others say Zimmermann went on his own. In any case, Zimmerman, a scientist turned policy analyst, came to NIH from the House Health subcommittee formerly chaired by Paul Rogers, the Florida Democrat who was long influential in NIH affairs until his retirement from Congress two years ago. What was bothering Harris, it seems, is that she perceived Zimmerman as tinkering in high policy affairs on Capitol Hill, and she doesn't want NIH — organizationally a subordinate piece of her department — to be carrying on its old game of negotiating directly with biomedical research's legislative patrons.

In addition to the aforementioned frictions and confusions, there's the emergence of an intense animosity between the Association of American Medical Colleges (AAMC) — the trade association for that piece of academe — and Rep. Henry Waxman (D-Calif.), chairman of the Subcommittee on Health and the Environment of the House Interstate and Foreign Commerce Committee. Waxman accuses the AAMC of "deliberately misrepresenting" a key provision of his NIH bill so as to inflame the Association's anxiety-prone medical school clientele. The Association concedes that perhaps it used imprecise language in describing the bill to its members, but it says that its offense is minuscule com-

pared to what Waxman is doing — which, in the view of the AAMC, amounts to messing with NIH for no good reason other than a desire to be important on Capitol Hill.

Waxman does have something of a track record for high ambition, mainly as a result of having vaulted over the seniority system in quest of that chairmanship. Closely related to his success, it's generally said on Capitol Hill, was some \$24,000 of surplus campaign funds of his own that he distributed to the campaigns of needy Democratic colleagues.

Added in to all this is the involvement of Senator Edward Kennedy, who, as chairman of the Subcommittee on Health and Scientific Research of the Labor and Human Resources Committee, has shown a deep interest in NIH affairs. Though not often on Capitol Hill these days, the Senator is the chief sponsor of a bill, the Health Sciences Promotion Act of 1979 (S 988), which stirs the NIH crowd only a bit less than the markedly different Waxman bill, the Health Research Act of 1980 (HR 7036).

The key to understanding the latest battle of Bethesda lies in recognizing that Congress has historically accorded NIH an unusual degree of self-government and exclusion from routine legislative scrutiny. This privileged position comes about from the fact that NIH,

*(Continued on Page 6)*

*In response to fears that ceilings might serve as depressants on spending, Waxman has set them high, as can be seen in the figures below:*

Institute	1980	1981	1982	1983
Cancer	\$1,000	\$1,245	\$1,420	\$1,609
Heart, Lung, Blood	528	616	693	781
Arthritis, Metabolism,				
Digestive Diseases	341	429	488	551
Aging	70	81	92	104
Allergy, Infectious				
Diseases	215	249	282	319
Child Health,				
Human Develop-				
ment	209	241	274	309
Dental Research	68	79	90	101
Eye	113	163	180	200
Neurological,				
Communicative				
Disorders, Stroke	242	279	317	358
General Medical				
Sciences	312	361	410	462
Environmental				
Health Sciences	84	97	110	124

## VA Appoints Academic Chief

David M. Worthen, chief of ophthalmology at UC San Diego and the San Diego VA Medical Center, has been named national head of the VA's Academic Affairs Program, succeeding William D. Mayer, who has retired to become head of the Eastern Virginia Medical Authority. The VA Academic Program embraces some 2000 cooperative training programs between VA centers and academic institutions and is described by the VA as "the largest coordinated health-care education program in the nation."

## ...Waxman Wants Bigger Role in NIH Affairs

(Continued from Page 5)

in contrast to almost all other major government agencies, operates for the most part under an open-ended authorization, which means that it doesn't have to appear regularly before Congressional authorizing committees to discuss and defend its basic statutory charter. NIH does go through an annual appropriations review in the House and Senate, and it is subject to examination under the oversight authority of the government operations committees. But the exemption from the authorization requirement means that there are no pre-set ceilings on NIH appropriations and the agency doesn't have to worry about special-interest amendments being slipped into its charter, as not infre-

quently happens with agencies that require annual reauthorizations. Of the 11 institutes that constitute NIH, only the National Cancer Institute and the National Heart, Lung, and Blood Institute are exceptions to the non-authorization arrangement. They require re-authorization every three years, as do several programs within other institutes. These reauthorizations, however take place in the general context of NIH carrying on year after year without any big changes in its legislative charter, and do not in practical terms alter the general rule that NIH is exempt from the authorization process.

Henry Waxman would change all that. His bill, which  
(Continued on Page 7)

### "If It Ain't Broke, Don't Fix It," Says NIH Ally

*The following is from testimony by Robert W. Berliner, Dean of Yale University School of Medicine, given in behalf of the Association of American Medical Colleges February 29, 1980 before Rep. Waxman's Subcommittee on Health and the Environment:*

Part of the secret of the greatness achieved by the NIH is due simply to money. The Federal Government has been very generous in appropriating funds for biomedical research and research training. The wisdom, understanding, foresight and initiative of the Congress has played an especially important role in the encouragement of the enterprise. That role has been characterized by the enactment of enabling authorities that clearly enunciate the objectives to be sought while recognizing the dynamic nature of a productive scientific endeavor by providing an appropriate degree of extended duration and reasonable flexibility in those authorities. Part of the credit also must go to the creativity, originality and hard work of American scientists. But neither of these influences adequately explains the continued success of the enterprise and there remain unanswered questions as to why, even under the enormous fiscal stresses of the present, the high level of performance continues. An extremely effective mechanism has been put into operation — probably as much by luck as by design. How and why it works so well is by no means clear.

However, it should be pointed out that the NIH is, by its very nature and structure, comprised of a variety of forces among which creative tension, rivalry, and competition are inherent. Some of the tensions that come quickly to mind are those: between the bureaucratic administrators and scientific investigators; between federal operating officials and private sector advisors; between those concerned with the substance of program

and those preoccupied with administrative and managerial process; between the study sections or other initial review groups and the National Advisory Councils; between zealots for different programs within a single institute competing for program priority; between intramural and extramural scientists; between clinical and basic scientists; and between Congressional patrons and Executive supervisors.

All of these potential sources of friction make the NIH a fragile coalition, an unlikely congeries of thesis and antithesis. It is held together as a delicate alliance of powerful rivals, hopefully restrained by self-discipline and responsive to adroit and sensitive leadership.

But the fact that it has not only maintained its coherence and integrity for thirty-five years, but also continued to perform spectacularly, suggests that a winning combination should be left as is, unless there is an overriding requirement for change, unless there is almost complete assurance that the change proposed will substantially improve performance and unless there is only the most remote possibility that harm would be occasioned by the change.

The Association is aware of no serious defects or deficiencies in the operation of the NIH. It is well aware that some individual scientists have found minor faults — by and large correctable without legislation — or have sought to impose their personal pet ideas on the national system for research. It is also aware that some who have failed in the fierce competition for limited research funds have become disaffected and blamed the system. But by and large the scientific community is more than well satisfied with the existing framework for Federal support and perceives no serious problems warranting legislation. There is a widespread feeling in this community that, as the saying goes, "If it ain't broke, don't fix it."

## ... "Sunset" Charge Stirs Medical Schools

(Continued from Page 6)

has been approved by the full Interstate and Foreign Commerce Committee, would set three-year authorizations and spending ceilings for each of the 11 NIH institutes. Waxman has set lofty ceilings, in response to AAMC and NIH anxieties about the authorizations turning into constricting ceilings (see box). And, in response to fears that snags in the legislative calendar might — as sometimes happens — cause the NIH authorization to expire before Congress passed a new bill, Waxman has added a provision for an automatic fourth-year extension for protection against such mishaps. And, on top of that, in response to fears that the three-year authorizations would restrict flexibility and make it difficult to get funds to explore unforeseen research opportunities, he's provided for a \$100-million "breakthrough fund" to be used in just such cases.

With the AAMC taking the lead, the campaign against the bill was initially orchestrated on the contention that, as the AAMC put it, Waxman was sponsoring "sunset" legislation — which is a dreaded kind of legislation in government ranks.

In its properly used sense, "sunset" is shorthand for mandating that unless Congress specifically passes a law renewing the life of an agency after a set period, that agency automatically goes out of business — and there are no exceptions or extensions.

Thus, as "sunset" is properly defined, it was not being properly used by the AAMC, and the Association now concedes that, though it insists that there was no intention to mislead its members. Waxman doesn't take this concession too kindly, since, as he points out, there is a big difference between a requirement for periodic reauthorizations and a requirement that specifies the death of an agency if it isn't reauthorized on time. It is quite common for Congress to be tardy with its reauthorizations; in such cases, Waxman points out, a simple continuing resolution keeps things running until the full-fledged legislation is enacted. Waxman says that

the AAMC, which regularly monitors official Washington for its members, is thoroughly acquainted with the procedure, and he openly admits that he's quite annoyed at what he perceives as an effort to stampede medical school deans into thinking he was sponsoring legislation that could be used to shut down NIH.

The Kennedy bill contains no provisions for reauthorization or dollar ceilings for the institutes. Where it riles the biomedical establishment is in its provision for setting up a President's Council for the Health Sciences to develop annually four alternative budgets for the coming fiscal year and for the four following years.

Kennedy, like Waxman, sees himself as a friend of NIH, even if NIH regards them as misguided, trouble-making friends. The Council concept, which Kennedy originated when NIH was having difficult times in the Nixon era, is simply a device for giving the Congress an additional handle on internal affairs at NIH, as well as providing the biomedical community with forum for protesting any niggardliness by Administration budget-makers. The 15-member Council would be appointed by the President, with the advice and consent of the Senate — thus making sure that some of the Senator's choices would get on board.

There are many other provisions in the House and Senate bills, but on the crucial question of which items are considered to be heartfelt by their sponsors, it's the Council for Kennedy and the time and dollar authorizations for Waxman.

What's next? Waxman and his staff are confident that they'll get their bill through the full House this year. They note that Secretary Harris finally came around to the position that the bill is acceptable to her Department; as for NIH, it's quietly asking, Why change a system that works extremely well?

Waxman's response is that his subcommittee can't do its job properly without periodically re-examining NIH's basic legislative authority.

The future of the Senate bill is clouded a bit by Kennedy's presidential quest. But should he come off the campaign trail, it's quite likely that the bill — cleared last month by the full committee — could come to the floor and win approval.

## Guide to DOE R&D Programs

Available without charge: *The DOE Program Guide for Universities and Other Research Groups* (104 pages), which provides step-by-step directions on how to tap what's left of the \$320 million DOE has for research in and around academe this year and the \$361 million it's planning to spend next year.

Request copies from: US Department of Energy, Technical Information Center, PO Box 62, Oak Ridge, Tenn. 37830. Additional information about DOE research programs is available from: Richard Stephens — (202) 376-9188.

## Industrial R&D Elects Head

Julius Blake, Vice President for Research and Development, Colgate-Palmolive Company, has assumed the presidency of the Industrial Research Institute, an international association of 260 firms that perform R&D. The new President-elect of the IRI is Harry Coover, Executive Vice President, Tennessee Eastman Company.

## The Ups and Downs of Advising Presidents

*Coming as it does from some of the kingpins of postwar science advice in Washington, a newly published collection, Science Advice for the President (Pergamon Press), contains predictable pleas for presidents to pay more attention to their science advisers, and, in particular, to recreate that council of scientific wisemen, the President's Science Advisory Committee. All pretty hum-drum in science and government affairs, but two items in the 256-page collection are worthy of note, the first, by Donald Hornig, for its candor, and the second, by I. I. Rabi, for its blatantchutzpah:*

**Hornig, who was Lyndon Johnson's science advisor, 1964-68:**

My wife and I were invited to White House dinners and social occasions and we occasionally utilized the Presidential box at the symphony, but were never a part of, or even near to, the inner circle. During the first two years, particularly, I saw him frequently in the Oval Office and never dealt with him through an intermediary, but our discussions were usually fairly formal and in the nature of reports and questions . . . The President used the talents of PSAC [the President's Science Advisory Committee] the OST [Office of Science and Technology] staff and the Science Adviser, and was happy to hear from them, but one never had the feeling that he depended on them to shape his views. I should add that it was my impression that most of the White House staff, with the exception of McGeorge Bundy, Horace Busby, Douglas Cater, and sometimes Bill Moyers, weren't

sure why there was a Science Adviser or where OST should fit in their scheme of things . . . A final item should be mentioned, although we failed completely at it. At one time the President was persuaded that, with so much going on in the world of science, he should be able to announce and discuss important and interesting developments and maintain the attention of the American people. As he put it, "for \$18 billion per year, there ought to be something to say at least once a week." I hope future science advisers succeed better than I did.

**Rabi, a Nobel laureate in physics, active in White House science advising from 1953 to 1968:**

. . . one needs people of breadth and wisdom who are not brought in just as specialized experts. Such people are hard to find, but they exist . . . My own experience, being a physicist, is that you find such people more readily among physicists, simply because physics is so fundamental and profoundly permeates all the other fields. But that is only a matter of experience and there must be many people who could thoughtfully discuss topics outside of their special fields — military education, let us say. Just from personal predilection, I would not bring in sociologists, for example, nor historians, nor people with a strong political background. They know a great deal and are usually very well-acquainted in Washington. They know a great deal but they also know a lot which is not so. And they can be very intimidating to the scientist who hasn't moved around in those corridors.

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